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## Project Management success in health – the need of additional research in public health projects

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### Abstract

The research about the factors that are linked to project management performance and project management success, has been developed for several years, so the literature about this subject is relatively extensive. After a literature review about project success factors, it was found that the current research effort is mainly focused on information technology, engineering and software development projects, not yet on public health projects. Public health projects have a different focus, are concerned on providing conditions in which people can be healthy, and are essential for populations' welfare. Their distinctive attributes justify the need of research towards the development of a specific model of success factors, to support top management and project managers in planning and operational management. A model of success factors would help in the identification, control and minimization of issues that increase the likelihood of going in the wrong direction and strengthen those that create value or increase the probability of going successfully. It would also be useful as a tool for prediction and diagnosis in evaluating objectively and gradually minimize the probability of project failure, and thus assist in improving the project performance. This article presents a brief literature review on project management success and points out the need of additional research for public health projects in this area.

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## 1. Introduction

In the past 50 years, the world has experienced enormous and unprecedented gains in the health of human populations [1]. Very different types of public health interventions have been developed and can be categorized as standardized products to a population (ex: immunizations, drugs), the delivery of clinical services (ex: primary health care services), a personal behavioral change (strategies to prevent sexual diseases transmission), the control of environmental hazards (ex: air quality control measures) [1]. Identifying the most cost-effective interventions is a major concern, so it is recognized that actions with no objective evidence of value added should be evaluated, reviewed and discontinued if it is proved that they do not produce the desired effects [2]. Thus, public health projects showing good performance in meeting its objectives must be identified, promoted and funded; the remaining should be analyzed carefully towards definition of factors related to failure.

Since success is a core concept in project management, the literature is relatively extensive and generalist about the criteria and factors linked to project success. However, critical success factors change according to project features [3]. The expected results, for example, in projects developed in private organizations, where the profit goal is relevant, may not be similar to projects developed in non-profit ones. This reasoning applies to public health projects, focused on preventing diseases, promoting health, and prolonging life among the population as a whole [4]. In fact, the intangibility of most results and the challenge in measuring effects are some of the distinctive characteristics of projects focused on health promotion.

In health, a project is recognized as a particularly useful way to introduce innovations, address new challenges or find solutions for problems that the existing procedures and routines do not accommodate [5]. Different types of health projects can be distinguished:

- Research projects, which aim to increase knowledge that can serve as a basis to make "evidence based" decisions;
- Development projects, which involve the development and pre-testing of an intervention to address a particular problem in a particular population or target group;
- Implementation projects, which are concerned with the dissemination and implementation of an existing intervention in a particular target group or population.

Schwalbe (2013) [6] describes other health projects common attributes:

- Quality is a key issue: health projects are mainly developed to resolve or prevent a specific health problem, many are related to issues of survival;
- Government has a central role: the state is often the project funder or the reason why a health project is developed;
- Perspectives about health are very personal: the behavior, the willingness to pay healthcare and the types of service they use are different.

So, despite we can easily recognize the specificities of this kind of projects, the literature review is scarce in referencing studies that included health projects. Models of success were particularly constructed to information technology and software development areas and, compared to other projects, information technology (IT) projects are unique [20]. These studies are mainly focused on general descriptions about factors related to project manager and project organization and often seem to ignore project team characteristics, external factors related to environment and special attributes of the surrounding area in which the project is developed [7]. For example, for civil construction projects, weather conditions can be considered critical in ending project on time; on the other hand, in launching a product on the market, the moment it happens can be critical. So, it makes sense to define the context in which the project is going to be developed and therefore realize what factors are critical for its success.

This article discusses the need of developing a model of success factors for public health projects, enough comprehensive to ensure applicability to most of them and specific enough to incorporate its particularities. Next section describes the main perspectives about success criteria and success factors, based on a literature review; after then, are discussed the advantages of creating a model of success factors specific for public health projects.

## 2. Background

### 2.1. Project success criteria

Project success is a key project management issue, studied for many years, but still poorly defined in terms of its concept and paths necessary to achieve it [8]. For many years the prevailing view of project success was focused on completion in time and costs, to generate results that met the criteria set by the organization, variables highlighted in the famous "triangle of virtue" that the literature widely describes. Currently, the understanding of what defines project success or failure is far more complex and there is no large consensus on what "project success" and "project failure" means [9] because there are in literature several views, perspectives and ways of looking to this issue.

First, is important to distinguish project success and project management success. While project success is measured by the achievement of its objectives or by the effects of the project final product, the success of project management is evaluated based on the traditional performance measures (cost, time and quality) and is therefore easier to measure [10] [11]. When the project long-term results are projected in a timeframe that stray far from its completion or when the effect size is difficult to measure (e.g., health promotion projects), the evaluation of these projects is often more focused on measuring project management success. Thus, the success of project management can lead to project success, but the opposite is not true: it is reasonable to accept that failure in project management can lead to failure of the project, except in fortuitous circumstances, but the project can fail despite successful project management [12].

Freeman and Beale (1992) [13] based on literature review, identified seven main criteria to measure project success: technical performance, efficiency in project execution, organizational and management outputs (including customer satisfaction), personal growth, project completion, technical innovation and business performance, feasibility of manufacturing.

Wideman and Shenhar (1996) [14] discuss the strong relationship between project success and customer satisfaction and argue that project effects measurement should be made in different time points. Project objectives should be measured during project execution, customer benefits in the short term, project direct contribution in the medium term, and future growth opportunities in the long term.

Ika (2009) [9] emphasizes efficiency and effectiveness measures in evaluating project success, based on an older idea [14] that project success is measured by its efficiency and effectiveness. The same author points the development of other dimensions linked to project success concept over time. The first period (1960s-1980s) was characterized by the iron triangle (time, cost, quality); the second one (1980s-2000s) distinguished the relevance of client satisfaction, organization benefits, end users satisfaction, stakeholders benefits and project team benefits. Actually, success is also linked to what extent the project is a strategic objective to the project owner and to the business success.

In a recent study [15] conducted in 2008 in the U.S., two major American consultants, the Jama Software and Ravenflow, applied a questionnaire to 808 employees from different industry sectors and found that for 86% the most important metric of project success is customer satisfaction. Following are aspects such as quality assurance (52%), investment returning (46.1%) and savings achieved (40%).

Schwalbe (2011) [16] captured several perspectives in literature about success and identifies the following traditional criteria for measuring project success:

- Achievement of scope, time and cost objectives: estimates provided for these three variables are achieved until the end of the project;
- Meeting customer and sponsor expectations: it is often more important end users and sponsor satisfaction than strictly complying with established goals of cost, schedule and scope;
- Project main objectives are achieved.

### 2.2. Project success factors

While success criteria reflect how project success should be measured, success factors are inputs to the management system that lead directly or indirectly to project success. On this issue, several research studies have been conducted for several years and built up either theoretical models, either lists of success factors. Some examples can be found in Table 1.

Table 1. Literature sample review on project success factors

Study	Project success factors
Pinto and Slevin (1988) [3]	<ul style="list-style-type: none"> <li>- Project mission: initial project objectives and strategy clearly defined;</li> <li>- Support from top management: support from top management to provide necessary resources and authority/power for project success;</li> <li>- Project planning: developing a detailed plan of the steps required to project implementation and scheduling;</li> <li>- Customer consultation: involvement, communication, active listening of all stakeholders;</li> <li>- Project team: involves project team recruitment and training, development of members skills;</li> <li>- Technical tasks: ensuring technology availability and expertise in the project team to successfully complete the technical processes;</li> <li>- Customer acceptance: managing to ensure final product acceptance by the customer;</li> <li>- Monitoring and feedback: ensure timely provision of relevant information for monitoring the project in each of its stages and feedback in relation to initial projections;</li> <li>- Communication: ensure adequate network and provision of relevant information for all key project stakeholders;</li> <li>- Troubleshooting: ensure mechanisms for rapid diagnosis and problem solution and the ability to lead with unexpected crises and deviations from the plan;</li> <li>- Project leader profile;</li> <li>- Power and Politics;</li> <li>- Environment events;</li> <li>- Urgency.</li> </ul>
Belassi and Tukul (1996) Literature review [8]	<ul style="list-style-type: none"> <li>- Clear objectives, global commitment of project team, project manager on site, suitable funding for project completion, project team abilities, accurate initial cost estimations, minimum starting trouble, technical planning and control, guidance for task completion (versus social orientation), no paperwork (Baker, Murphy and Fisher, 1983);</li> <li>- Project mission, top management support, project planning, client consultation, project team, technical tasks, client acceptance, monitoring and feedback, problem solving, communication, project leader profile, power and politics, environmental events, urgency (Pinto and Slevin, 1989);</li> <li>- Project objectives, uncertain technical innovation, policy, community involvement, problems in legal funding contract, troubleshooting (Morris and Hough, 1987).</li> </ul>
Glaser (2004) [17]	<ul style="list-style-type: none"> <li>- Project scope poor definition;</li> <li>- Little evidence of benefits arising from the project;</li> <li>- Top management insufficient support;</li> <li>- Organizational inertia;</li> <li>- Organizational background that is resistance to change;</li> <li>- Lack of organizational incentives;</li> <li>- Lack of honesty;</li> <li>- Leadership intolerant to bad news;</li> <li>- Project complexity level too high, difficult to manage.</li> </ul>
Standish Group (2009) [18]	<ul style="list-style-type: none"> <li>- User involvement;</li> <li>- Executive support;</li> <li>- Clear business objectives;</li> <li>- Emotional maturity;</li> <li>- Optimization;</li> <li>- Agile processes;</li> <li>- Background in project management;</li> <li>- Resources expertise;</li> <li>- Execution;</li> <li>- Tools and infrastructure.</li> </ul>
Simpson (2011) [19]	<ul style="list-style-type: none"> <li>- Setting unrealistic deadlines or expectations;</li> <li>- Poor requirements definition;</li> <li>- Changes in scope.</li> </ul>

From literature review is to mention particularly Pinto and Slevin (1988) [3] and Belassi and Tukul (1996) [8] studies because they offer a broader perspective about using information related to success factors. First, the idea that relevance of each success factor changes according to project phases [4]. That is, factors such as project mission, top management support and project planning are crucial in project planning phase, strategic planning, defining the project objectives and the process to achieve them; factors such as customer engagement, the project team, technical functions, customer acceptance, monitoring and feedback, communication and problem solving are crucial during

next phase - implementation - and have a tactical dimension, since they are related to resource usage (human, technical and financial) to be achieved the objectives of strategic planning. Monitoring these factors allows defining project strategy and tactical level, thus admitting that strategy effectiveness has implications on tactical performance.

Belassi and Tukel (1996) [8] conducted a literature review on success factors and accessed its relationship with project success by applying a questionnaire to project managers. It was concluded, for example, that the resources availability is far more important than the top management support to accomplish the project with the quality initially defined, whereas if the focus is to accomplish the project on time, then the project manager skills and good communication processes within the project team are both fundamental dimensions. Success factors described in the literature review were grouped in four groups and was built a framework that allows, for example, a quickly diagnosis if the project is going wrong for issues that are related to the project manager or for exogenous factors beyond the scope of his action ( Table 2).

Table 2. Groups of project success factors [8]

Project manager	<ul style="list-style-type: none"> <li>- Ability to delegate authority;</li> <li>- Ability to make choices;</li> <li>- Ability to coordinate;</li> <li>- Perception of their role and responsibilities;</li> <li>- Commitment.</li> </ul>
Organization	<ul style="list-style-type: none"> <li>- Support from top management;</li> <li>- Project organizational structure;</li> <li>- Support from functional managers;</li> <li>- Project "champion".</li> </ul>
Project	<ul style="list-style-type: none"> <li>- Size and value;</li> <li>- Uniqueness of project activities (<i>versus</i> standard activities);</li> <li>- Density of network design;</li> <li>- Project life cycle;</li> <li>- Urgency of results.</li> </ul>
External environment	<ul style="list-style-type: none"> <li>- Political context;</li> <li>- Economic context;</li> <li>- Social context;</li> <li>- Technological context;</li> <li>- Client;</li> <li>- Competition;</li> <li>- Sub-contracts.</li> </ul>

### 2.3. Success in public health projects

Public health projects, are concerned on providing conditions in which people can be healthy [5], and are essential for populations' welfare. The scarce literature found in the public health field describes different results from the literature previous presented. Medlin et al. (2006) [1] analyzed the factors that contributed to the development and implementation of cost-effective interventions in healthcare and point the benefits of strong leadership, effective management, realistic financing arrangements, country ownership, openness and receptivity to learning by doing, constantly improving on strategies and processes by incorporating new research findings and technical innovation. Other study [19] addressed organizational development in healthcare and identified the following success factors: adequate financing; partnerships; advanced project logistics; small scale projects; and adequate internal and external communication.

Being success a nuclear topic in project management and having public health projects particular attributes, this article recognizes the need of more research about what is relevant to its success. In public health is recognized that a quality of a project depends on the relevance of the products or services that are created, the technical and methodological quality with which these results or services are produced, and the way in which this process is managed. So, a model of success factors would be extremely useful [5], identifying the factors that contribute to successful prevent disease and health promotion projects development and implementation. First, this knowledge can be used as a tool for prediction and diagnosis in evaluating objectively and gradually (over time) the probability of project failure and thus assist in improving its performance. Second, generating a broad knowledge about public

health success factors will allow the identification, control and minimization of issues that increase the likelihood of going in the wrong direction and strengthen those that create value or increase the probability of going successfully. This adds value in projects planning, particularly in identifying their risks and opportunities. Third, it may contribute to define a relationship between project success factors and project success criteria. Also, may help in identifying, for example, significant relationships between project attributes and its success, and in providing project managers relevant information about success factors that are relevant to the completion of the project or project phase successfully.

### 3. Conclusion

The nature of public health projects is different from engineering or information technologies projects. Public health is concerned with the assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities, the formulation of public policies designed to solve identified local and national health problems and priorities, to assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services [5]. Additional research is needed to improve knowledge about success factors in public health projects and about the ways to optimize projects. It is believed that knowledge would be relevant and will generate high theoretical and practical value both to the fields of health public strategy planning and for strategic and operational management of public health projects. As future work we propose the development of a model of success factors for public health projects.

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